"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

3(1)
AUTHORS: Boyarchuk,A.A., and Kopylov,I.M. SOV/33-35-5-17/20

TITLE: On the Distribution of Stellar Rotational Velocities (O raspredelenii skorostey vrashcheniya zvezd)

PERIODICAL: Astronomicheskiy zhurnal, 1958, Vol 35, Nr 5, pp 804-810 (USSR)

ABSTRACT: Basing on data given in the papers [Ref 1-9](table 1) the authors establish a catalogue of the rotational velocities of 2362 stars. They determine the mean rotational velocity $\overline{v \sin i}$ as a function of the spectral class for each luminosity class (fig. 1,2). These functions have several maxima and minima which can not be explained with the aid of the known hypothesis on stellar evolution. A detailed representation of the results will be published in "Izvestiya Krymskoy astrofizicheskoy observatorii" Vol 21.
There are 3 figures, 2 tables, and 15 references, 3 of which are Soviet, 11 American, and 1 Canadian.

ASSOCIATION: Krymskaya astrofizicheskaya observatoriya Akademii nauk SSSR (Krym Astrophysical Observatory of the AS USSR)

SUBMITTED: February 15, 1958

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

KOPYLOV, I.M., BOYARCHUK, A.A.

Relationship between the speed of the rotation of stars and their spectral class and luminosity [with summary in English]. Izv.krym. astrofiz.obser. 21:40-53 '59. (MIRA 13:6)
(Stars)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

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87345

S/035/60/000/012/003/019
A001/A001

3.1560 (1057, 1172, 1189)

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 12, p. 27, # 12142

AUTHOR: Boyarchuk, A. A.

TITLE: A Quantitative Analysis of the Atmosphere of the Supergiant χ Cassiopeiae

PERIODICAL: Izv. Krymsk. astrofiz. observ., 1959, Vol. 21, pp. 54-70 (English summary)

TEXT The author analyzes quantitatively the atmosphere of the supergiant χ Cas on the basis of the observational results performed by Mannino (Mannino G., Contribs dell'osservat. astron. Padova, 1953, No. 36) in 1952 and by the author in 1953 and 1954. The author found out that a systematic decrease in equivalent widths of absorption lines was proceeding from 1952 to 1953, following by the width increase by 1954. The following parameters of the χ Cas atmosphere were determined for these periods: the number of hydrogen atoms in the atmosphere unit column, electronic pressure, the number of helium atoms in states 2^3P and 2^1P, turbulent velocity, and temperatures of excitation and ionization. All these

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A Quantitative Analysis of the Atmosphere of the Supergiant Cassiopeidae

parameters, with exception of electronic pressure, as well as the total numbers of the atoms of H, He, C, N, O, Ne, Mg and Si, decrease from 1952 till 1953, and then increase again by 1954. However, the relative abundance of the elements remains the same, and agrees with the average for the B-stars. Carbon and nitrogen are, possibly, exceptions, as their contents turned out to be three times as low as in other B-stars. The velocity of macroscopical turbulence in the $\varkappa$ Cas atmosphere was determined from the profiles shape; it turned out to be 100 km/sec. There are 10 references.

M. A. Arakelyan

Translator's note: This is the full translation of the original Russian abstract.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.A.

Chemical composition of stars. Vop.kosm. 7:213-230 '60.
(MIRA 13:11)

(Stars)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.A.

Envelopes of the B stars. Vop.kosm. 7:231-257 '60. (MIRA 13:11)
(Stars)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

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S/035/61/000/003/015/048
A001/A101

3,1560

AUTHORS: Boyarchuk, M.Ye. and Boyarchuk, A.A.

TITLE: Intensities of oscillators determined by studying the spectra of stars

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 3, 1961, 31-32, abstract 3A297 ("Izv. Krymsk. astrofiz. observ.", 1960, v. 22, 234-256, Engl. summary)

TEXT: The authors determined and systematized relative values of oscillator intensities (f) for 1,184 lines of twenty one kinds of neutral atoms and ions. The f values are calculated from the quantity

$$\eta = \frac{\sigma}{k_\lambda} = \frac{\pi^{1/2} e^2 f \lambda N_i}{mcv_t k_\lambda},$$

where σ and k are absorption coefficients in the line and continuous spectrum respectively, v_t is turbulent velocity (determined from the curve of growth), and N_i is the number of atoms in the i-level. The values of lg η were given by a number of authors earlier. The results of f-calculations are tabulated. A comparison of the obtained f-values with laboratory values shows that the accuracy of f-values

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Intensities of oscillators ...

estimated by the authors is a little below that of the laboratory ones. The main source of errors was blending of the lines. The authors determined multiplying factors for converting relative oscillator intensities into absolute ones. There are 18 references.

A. Kolesov

[Abstracter's note: Complete translation]

Card 2/2

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

S/033/60/037/005/004/024
E032/E514

AUTHORS: Boyarchuk, A.A., Yefimov, Yu. S. and Stepanov, V.Ye.

TITLE: The Increase in Equivalent Widths of Absorption Lines in a Magnetic Field

PERIODICAL: Astronomicheskiy zhurnal, 1960, Vol.37, No.5, pp. 812-823

TEXT: The theory of the inverse Zeeman effect developed in Refs. 1-3 is used to determine the magnetic broadening of equivalent widths as a function of the nature of the splitting, the strength and direction of the magnetic field and the physical state of the atmospheres. The magnetic broadening of an absorption line is defined by

$$q = \ln \frac{W^{H}}{W_{o}} \qquad (1)$$

where W^{H} is the broadened line width and W_{o} is the line width in the absence of a magnetic field. The calculations are carried out for the following lines: FeI, FeII, NdII, EuII and LaII. It is found that the magnetic broadening in a longitudinal field

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E032/E514

The Increase in Equivalent Widths of Absorption Lines in a Magnetic Field

increases linearly with $n\delta$, where n is the number of components and δ is the distance between neighbouring sub-components. It is assumed that LS-coupling is operative. When the magnetic field is at an angle $\cdot$ to the line of sight, there is an additional broadening due to blending of sub-component groups with different polarizations. In this case the broadening depends on the intensity distributions in the sub-components of the splitting and increases with this angle. This increase is most rapid between 0 and 50° and then tends to level off. The magnetic broadening is proportional to the intensity of the magnetic field for all fields observed in the atmospheres of magnetic stars. The broadening decreases with increasing turbulent velocity and damping constant. The dependence of the magnetic broadening on the number x_o of absorbing atoms is more complicated. At first, the broadening increases with x_o, it then reaches a maximum at $x_o = 160$ and slowly tends to zero thereafter. General expressions are derived for calculating the magnetic

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S/033/60/037/005/004/024
E032/E514

The Increase in Equivalent Widths of Absorption Lines in a Magnetic Field

broadening as functions of the magnetic field, the angle between the magnetic field and the line of sight, the number of absorbing atoms and the damping constant. It is shown that the formula given by Warwick (Ref.9) is incorrect and cannot be used in the calculation of the equivalent widths of lines in a magnetic field. An estimate is given of the role played by the magnetic field in determining the abundances of elements in the atmospheres of magnetic stars. It is shown that the magnetic field cannot give rise to the observed broadening of rare-earth lines and that their excess abundance in peculiar A stars is real. A study is also made of the effect of the magnetic field on the growth curve for sunspots. The magnetic field tends to produce a rise of the curve as a whole. In the linear part of the curve the broadening is very small and tends to zero for large x_o. In order to determine the effect of the magnetic broadening in sunspots, it is necessary to plot growth curves separately for spots in the neighbourhood of the centre of the solar disc and those near its

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E032/E514

The Increase in Equivalent Widths of Absorption Lines in a Magnetic Field

limb. In order to determine the physical conditions in sunspots, the growth curve must be corrected for the effect of the magnetic field. Acknowledgment is made to T. S. Galkina for assistance in the numerical calculations. There are 8 figures, 4 tables and 15 references: 6 Soviet, 2 German and 7 English.

ASSOCIATION: Krymskaya astrofizicheskaya observatoriya
Akademii nauk SSSR
(Crimean Astrophysical Observatory, Academy of Sciences USSR)

SUBMITTED: April 19, 1960

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APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.A.; GERSHBERG, R.Ye.; GOLLANDSKIY, O.P.; KOPYLOV, I.M.; NIKONOV, V.B.

"Vistas in astronomy". Reviewed by A.A.Boiarchuk and others. Astron.zhur. 38 no.4:777-782 Jl-Ag '61. (MIRA 14:8)

1. Krymskaya astrofizicheskaya observatoriya AN SSSR.
(Astronomy)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

S/712/62/028/000/004/020
E032/E114

AUTHOR: Boyarchuk, A.A.

TITLE: Quantitative analysis of the atmosphere of Sirius. I. Equivalent widths of lines and their identification in the range 3400 - 4800 Å

SOURCE: Akademiya nauk SSSR. Krymskaya astrofizicheskaya observatoriya. Izvestiya. v.28. 1962. 123-134

TEXT: Three spectrograms of Sirius were obtained in December 1959 with the echelon spectrograph of the solar tower telescope of the Krymskaya Astrofizicheskaya Observatoriya (Crimean Astrophysics Observatory). The spectrograms covered the region 3400 - 4800 Å (dispersion 0.8 - 0.5 Å/mm). The wavelengths were determined to within ± 15 Å. A list is given of 500 lines, their identifications and equivalent widths. Groups of multiplets were then used to construct curves of growth and the turbulent velocity was calculated from them. It was found to be 3 km/sec for all elements and excitation potentials.
There are 8 figures and 2 tables.
December 10, 1961
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APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.A.

Quantitative analysis of the atmosphere of Sirius. Part 2. Detailed chemical analysis of the atmosphere. Izv. Krym. astrofiz. obser. 29:219-238 '63. (MIRA 16:10)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.A.; PRONIK, I.I.

Spectrophotometric study of Be stars with very thick envelopes.
Izv. Krym. astrofiz. obser. 29:268-277 '63. (MIRA 16:10)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.A.; GERSHBERG, R.Ye.; PRONIK, V.I.

Formulae, graphs, and nomograms for a quantitative analysis of the spectra of emission objects. Izv. Krym. astrofiz. obser. 29:291-314 '63. (MIRA 16:10)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

MUSTEL',E.R.; BOYARCHUK, A.A.; BARTASH, T.M.

Energy distribution in the continuum of N Aquilae 1918 and RS Ophiuchi. Izv. Krym. astrofiz. obser. 30:19-24 '63.
(MIRA 17:1)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

ACCESSION NR: AR4039237 S/0269/64/000/004/0024/0024

SOURCE: Ref. zh. Astronomiya, Abs. 4.51.187

AUTHOR: Belyakina, T. S.; Boyarchuk, A. A.; Gershberg, R. Ye.

TITLE: Energy distribution in the continuous spectrum of novalike and symbiotic stars

CITED SOURCE: Izv. Kry*msk. astrofiz. observ., v. 30, 1963, 25-41

TOPIC TAGS: star, symbiotic star, novalike star, astronomy, astrophysics, stellar spectrophotometry, slitless spectrograph, emission line, nebula, planetary nebula

TRANSLATION: This article presents the first results of stellar spectrophotometric studies made using the 2.6-m reflector of the Crimean Astrophysical Observatory. There is a brief description of the slitless spectrograph used in the observations and a detailed discussion of the method used for investigation of the energy distribution in the stellar continuous

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ACCESSION NR: AR4039237

spectrum. On the basis of 30 spectrograms the authors obtained the energy distribution in the spectrum of the novalike star AG Dra and in the spectra of three symbiotic stars (Z And, AG Peg and BF Cyg). For each of these stars the authors determined the energy distribution in the spectral region $\lambda\lambda$ 3300-5000 and have given a physical interpretation of the observed distribution. The spectrum of AG Dra corresponds to the integrated spectrum of a star with a spectrophotometric temperature of 2800°K and ionized hydrogen at T_e = 20000°K; the spectrum of Z And is interpreted as the joint radiation of a star with T = 3600°K and hydrogen plasma at an electron temperature of 30000°K. The spectra of AG Peg and BF Cyg in the studied region of the spectrum are caused by the luminescence of ionized hydrogen at electron temperatures of 30000 and 80000°K respectively. An estimate is made of the optical thicknesses of all gas components of the studied objects; in the H δ line they are several units. Estimates are given of the equivalent widths of the brightest emission lines and the determined energy distribution in the continuous spectrum has been used to compute the energy relationships between the emission lines. A preliminary quantitative analysis of the emission lines made for BF Cyg confirms the results obtained from the continuous spectrum. Investigation of the planetary

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ACCESSION NR: AR4039237

nebula IC 4997 served as additional control of the correctness of the method as a whole. Bibliography of 17 items. Author's abstract.

DATE ACQ: 12May64 SUB CODE: AS ENCL: 00

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A. A.

Symposium on Nonsteady-state Stars. Vest. AN SSSR 33 no.1: 124-126 Ja '63. (MIRA 16:1)

(Stars)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.

Symposium on nonstable stars. Astron. zhur. 40 no.1:202-203 J-F '63. (MIRA 16:1)

(Stars)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.A.

Magnetic fields of stars. Vop. kosm. 10:3-17 '64.

(MIRA 17:10)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.A.; PRONIK, I.I.

Study of the H$_\alpha$ line profile in Be star spectra. Izv. Krym. astrofiz. obser. 31:3-11 '64. (MIRA 17:9)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.A.; KOPYLOV, I.M.

General catalog of rotational velocities of 2558 stars. Izv. Krym. astrofiz. obser. 31:44-99 '64. (MIRA 17:9)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.A.; MUSTEL', E.R.

Line spectrum of the "old" Nova Aquilae 1918 (V 603 Aql).
Astron. zhur. 41 no.3:587-589 My-Je '64. (MIRA 17:6)

1. Krymskaya astrofizicheskaya observatoriya AN SSSR i Astronomicheskiy sovet AN SSSR.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.A.

Book reviews. Astron. zhur. 42 no.3:685-686 My-Je '65. (MIRA 18:5)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

L 29448-66 EWT(1)/EWT(m) WW/GW

ACC NR: AR5022992 SOURCE CODE: UR/0269/65/000/008/0034/0034

AUTHOR: Boyarchuk, A. A.

23
B

TITLE: Remarks on the chemical composition of Z And

SOURCE: Ref. zh. Astronomiya, Abs. 8.51.305

REF SOURCE: Izv. Krymsk. astrofiz. observ., v. 33, 1965, 186-194

TOPIC TAGS: star, space matter

ABSTRACT: It was found that the Z And shell has a hydrogen content surplus approximately five times greater than the element content in the oxygen group. The relative content of He, N, and O does not differ, within the limits of error, from their content in NGC 7027. It was shown that the shell contains substantial heterogeneities, which cause unreliability in determining the atom content by the forbidden lines. Orig. art. has 14 references. Author's resume

SUB CODE: 03/ SUBM DATE: none

Card 1/1

UDC: 523.044

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.I., dotsent

Some results of the scientific and research on methods of the Physics and Mathematics Faculty of the Chechen-Ingush State Pedagogical Institute. Uch. zap. GGPI no.8:3-13 '58.
(MIRA 13:8)
(Chechen-Ingush A.S.S.R.--Research)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.K. [Boiarchuk, O.K.]

Construction and study of a homogeneous difference scheme for a certain boundary value problem. Dop. AN URSR no.12:1573-1577 '63. (MIRA 17:9)

1. Kiyevskiy gosudarstvennyy universitet. Predstavleno akademikom AN UkrSSR I.Z. Shtokalo.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.K. [Boiarchuk, O.K.]

Homogeneous difference scheme on a nonuniform net for a differential equation of the fourth order with discontinuous coefficients. Dop. AN URSR no.1:6-10 '65. (MIRA 18:2)

1. Kiyevskiy gosudarstvennyy universitet. Predstavleno akademikom AN UkrSSR Yu.A. Mitropol'skim [Mytropol's'kyi, IU.O.].

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L 25645-65 EWT(d) Pg-4 IJP(c)
ACCESSION NR: AP5004240 S/0021/65/000/001/0006/0010

AUTHOR: Boyarchuk, O. K. (Boyarchuk, A. K.)

TITLE: A homogeneous difference scheme on an irregular net for solving a fourth-order differential equation with discontinuous coefficients

SOURCE: AN UkrRSR. Dopovidi, no. 1, 1965, 6-10

TOPIC TAGS: homogeneous difference scheme, irregular net, fourth order differential equation

ABSTRACT: A numerical solution of the differential equation

$$\frac{d^2}{dx^2}\left[k(x)\frac{d^2U}{dx^2}\right]+q(x)\cdot U=f(x), \qquad (1)$$

where k(x), q(x), and f(x) are piece-wise continuous functions, with boundary conditions

$$U(0)=U'(0)=0; \quad U(1)=U'(1)=0 \qquad (2)$$

is considered on the interval (0, 1). The problem (1)-(2) is written in operator

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form. To solve it, the author utilizes an irregular net with net spacings h_i satisfying the condition

$$0 < \varkappa_0 \leqslant \frac{h_{i+1}}{h_i} \leqslant \varkappa_1, \qquad (3)$$

where $\varkappa_0$ and $\varkappa_i$ are positive constants independent of i and the number of division points. By applying the integro-interpolation method, the finite difference scheme for the numerical solution of operator equations is derived. The finite difference scheme is written in operator form

$$L_h y_h = f_h, \qquad (4)$$

and it is proved that the difference operator L_h is positively defined and its inverse L_h^{-1} exists. On the basis of the derived properties for the difference operator L_h, it can be seen that if the net is specially selected, the newly proposed finite-difference scheme is a straightforward computation scheme. Orig. art. has: 17 formulas.

[LK]

ASSOCIATION: Kyyivs'kyy derzhavnyy universytet (Kiev State University)

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ACCESSION NR: AP5004240

SUBMITTED: 03Jan64 ENCL: 00 SUB CODE: MA

NO REF SOV: 005 OTHER: 000 ATD PRESS: 3185

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

L 55246-65 EWT(d) Pg-4 IJP(c)

ACCESSION NR: AP5015222 UR/0376/65/000/005/0671/0686

AUTHOR: Boyarchuk, A. K.

TITLE: Homogeneous difference schemes on nonuniform grids for a fourth order differential equation with discontinuous coefficients

SOURCE: Differentsial'nyye uravneniya, no. 5, 1965, 671-686

TOPIC TAGS: differential equation, approximation calculation, difference equation, stability

ABSTRACT: Let the functions k, p, q and f with domain $[0,1]$ satisfy

$$0 < c_1 \leqslant k(x) \leqslant c_2,\ 0 \leqslant p(x) \leqslant c_3,\ 0 \leqslant q(x) \leqslant c_4,\ |f(x)| \leqslant c_5, \qquad (1)$$

where $c_1, \ldots, c_5$ are positive constants. The author considers

$$LU^{(k,p,q,f)} = \frac{d^2}{dx^2}\left[k(x)\frac{d^2U}{dx^2}\right] - \frac{d}{dx}\left[p(x)\frac{dU}{dx}\right] + q(x)U - f(x) = 0 \qquad (2)$$

under

$$U(0) = U'(0) = U(1) = U'(1) = 0. \qquad (3)$$

In addition, if k, p, q, and f have discontinuities of first kind, then certain

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ACCESSION NR: AP5015222

conjugacy conditions must be satisfied by u. He investigates difference schemes of the form

$$L_{h_i}^{(k,\,p,\,q,\,f)} y_i = L_{h_i}^{(k,\,p,\,q)} y_i - \Phi_i = 0, \qquad (4)$$

for (2) where

$$L_{h_i}^{(k,\,p,\,q)} y_i = \frac{1}{h_i}\Delta\left(\frac{1}{h_i}\nabla\left[\frac{a_i}{h_i}\Delta\left(\frac{\nabla y_i}{h_i}\right)\right]\right) - \frac{1}{h_i}\Delta\left(b_i\,\frac{\nabla y_i}{h_i}\right) + d_i y_i. \qquad (5)$$

He gives necessary conditions for the order of approximation of this scheme and obtains error estimates in the class of continuous and discontinuous functions k, p, q, and f. He gives necessary conditions for convergence. Finally, he discusses stability of these schemes. Orig. art. has: 72 formulas.

ASSOCIATION: Kiyevskiy gosudarstvennyy universitet im. T. G. Shevchenko (Kiev State University)

SUBMITTED: 20Nov64 ENCL: 00 SUB CODE: MA

NO REF SOV: 004 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.K.

KO-stability of conservative difference schemes for a differential equation and a system of differential equations of the fourth order with discontinuous coefficients. Dif. urav. 1 no. 12: 1652-1661 D '65. (MIRA 18:12)

1. Kiyevskiy gosudarstvennyy universitet imeni Shevchenko.
Submitted Nov. 3, 1964.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, A.K.

Difference schemes for a fourth-order differential equation with discontinuous coefficients. Vych. mat. [Kiev] no. 1:107-115 '65
(MIRA 19:2)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

L 43138-66 EWT(d) IJP(c)
ACC NR: AP6014172 SOURCE CODE: UR/0376/65/001/012/1652/1661

AUTHOR: Boyarchuk, A. K.

ORG: Kiev State University im. T. G. Shevchenko (Kiyevskiy gosudarstvennyy universitet)

TITLE: Costability of conservative difference schemes for differential equations and systems of fourth-order differential equations with discontinuous coefficients

SOURCE: Differentsial'nyye uravneniya, v. 1, no. 12, 1965, 1652-1661

TOPIC TAGS: differential equation system, difference equation, fourth order differential equation

ABSTRACT: This paper investigates fourth-order differential equations and differential equations systems often encountered in mechanical applications. Although all discussions are carried out for a particular boundary-value problem, the results are also true for other types of boundary conditions. Conservative schemes of homogeneous differences are discussed. The case of local perturbations of differential equation coefficients over one interval of the lattice containing a first-order discontinuity point of these coefficients is considered. The results are extended to differential equation systems. In defining the costability it is assumed that the coefficients of the perturbed problem are chosen from the same functional

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ACC NR: AP6014172

class as were the coefficients of the original problem; otherwise, perturbed coefficients may be chosen in such a way that the problem becomes unsolvable. The author thanks A. A. Samarskiy for valuable comments and advice. Orig. art. has: 57 formulas.

SUB CODE: 12/ SUBM DATE: 03Nov64/ ORIG REF: 002

Card 2/2 MLP

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, I., nauchnyy sotrudnik; DONETS, S. [Donets', S.], nauchnyy sotrudnik; LUK'YANCHUK, A. nauchnyy sotrudnik

Adjustable plow system for making furrows on hillsides. Mekh. sil', hosp. 13 no.8:10-11 Ag '62. (MIRA 15:7)

1. Ukrainskiy anuchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.
(Plows) (Soil conservation)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BUYARCHUK, I.F.

Biological effect of compound mineral fertilizers (nitrofoska). Farmakol. i toks. 29 no.3:305-308 My-Je '66. (MIRA 18:8)

1. Tsentral'nyy institut usovershenstvovaniya vrachey, Moskva.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, I.F.

Method of dynamic inhalation poisoning of animals by hygroscopic dusts. Farmacol. toksik. 26 no.3: 377-381 My-Je '63
(MIRA 17:2)

1. Institut gigiyeny truda i profzabolevaniy AMN SSSR.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, I.F.; LUTOV, V.A.

Method of dynamic inhalation poisoning of animals with thermal decomposition products of aerosols of liquid and solid substances. Farm. i toks. 28 no.5:626-628 S-O '65.
(MIRA 18:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnoy gigiyeny Ministerstva putey soobshcheniya SSSR, Moskva. Submitted April 4, 1964.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

L 27974-66 EWT(1) RO

ACC NR: AP6017736 SOURCE CODE: UR/0064/65/000/011/0027/0028

AUTHOR: Boyarchuk, I. F.

ORG: none

TITLE: Sanitation of working conditions in the production of mineral fertilizers

SOURCE: Khimicheskaya promyshlennost', no. 11, 1965, 27-28

TOPIC TAGS: fertilizer, sanitation, fluorine compound, chemical protective clothing

ABSTRACT: Among the harmful substances given off in the production of mineral fertilizers the most toxic are the fluorine compounds. The production of fluorine compounds is associated chiefly with the acid treatment of phosphate raw material. Considerable amounts of fluorine compounds and other toxic substances are produced in auxiliary and warehouse areas of fertilizer productions where ageing of the finished product occurs.

The most important sanitation measures in the production of mineral fertilizers should provide:

1. Rational volumetric-planning decision of the production buildings.
2. Improvement in the technical process and equipment, and development of new cloths for special clothing.
3. Equipment for effective delivery and exhaust ventilation.
4. Observation of the rules and instructions on the safety techniques and production sanitation, and use of individual protection measures (special clothing, respirators, gas masks, rubber gloves, protective salves, pastes, etc.).

[GPRS]

SUB CODE: 06, 07 / SUBM DATE: none/ ORIG REF: 008/ OTH REF: 003

Card 1/1 UDC: 631.82:628.5

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

ACC NR: AP6021320 (N) SOURCE CODE: UR/0390/65/028/005/0626/0628

AUTHOR: Ilyarchuk, I. F.; Lutov, V. A.

ORG: All-Union Scientific Research Institute of Railroad Hygiene, MPS SSR, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnoy gigiyeny MPS SSSR)

TITLE: Procedure for the dynamic inhalation poisoning of animals with aerosol thermal decay products of liquid and solid substances

SOURCE: Farmakologiya i toksikologiya, v. 28, no. 5, 1965, 626-628

TOPIC TAGS: toxicology, aerosol, fertilizer, chemical decomposition, hydrocarbon, carbon monoxide, nitrogen oxide, ammonia, hydrogen chloride, hydrogen fluoride

ABSTRACT: The principle of the proposed procedure is as follows. Liquid and solid substances are first converted into highly dispersed aerosols which are then subjected to thermal decomposition. The work was done with spindle oil and complex nitrogen fertilizers. The highly dispersed liquid aerosols were formed by the Ye. B. Gernet system and the solid aerosols were formed by the Yu. G. Shirolov system. Thermal decomposition of the spindle oil aerosols were done at 280-300°C. During the thermal decomposition of the spindle aerosols in a ceramic tube, condensation aerosols, hydrocarbons and carbon monoxide are formed, and during the thermal decomposition of complex fertilizer aerosols - condensation aerosols, hydrogen fluoride, nitrogen oxides, ammonia, and hydrogen chloride. The levels of concentration of decomposition products are presented. The dispersion of the complex fertilizer aerosols before combustion

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ACC NR: AP6021320

amounted to: 75% up to 2 microns, 25% from 2 to 5 microns; after decomposition 95% 1-2 microns. The stable concentrations of the thermal decomposition products of the spindle oil and complex nitrogen fertilizer aerosols in the inhalation chamber under exposure dynamics are explained by the uniform passage of the aerosols in the ceramic tube during inhalation and constant temperature conditions of thermal decomposition of the products. Orig. art. has: 2 figures and 3 tables. [JPRS]

SUB CODE: 06, 07 / SUBM DATE: 04Apr64

Card 2/2

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, I.K

KOROLENKO, K.M., starshiy naukoviy spivrobitnik; BOYARCHUK, I.K., starshiy naukoviy spivrobitnik

New working parts of the P-5-35M plow for subtilling. Mekh.sil'. hosp. 9 no.3:14-15 Mr '58. (MIRA 11:4)

1. Ukrainskiy nauchno-issledovatel'skiy institut mekhanizatsii i elektrofikatsii sel'skogo khozyaystva.
(Plows)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

MUSTEL', E.R.; GALKIN, L.S.; KUMAYGORODSKAYA; BOYARCHUK, M.Ye.

Quantitative spectral classification of F0-K5 stars with well determined distances. Izv.Krym.astrofiz.obser. 18: 3-37 '58. (MIRA 13:4)
(Stars--Classification)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

MUSTEL', E.R.; BOYARCHUK, M.Ye.

Absorption spectrum of Nova Herculis, 1934, at its maximum.
Izv. Krym. astrofiz. obser. 20:86-100 '58.

(MIRA 13:3)

(Stars, New--Spectra)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

84574

3,1560 (1050, 1172, 1189)

S/035/60/000/009/007/016
A001/A001

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 9, pp. 34-35, # 8853

AUTHORS: Mustel', E.R., Boyarchuk, M.Ye.

TITLE: On Chemical Composition of the Atmosphere of N Her 1934

PERICDICAL: Izv. Krymsk. astrofiz. observ., 1959, Vol. 21, pp. 3-23 (Engl. summary)

TEXT: The chemical composition of the N Her 1934 atmosphere is determined for the maximum brightness instant, as well as that of 7 comparison stars: α Cyg A2Ia, δ Del A7III, γ Her A9III, ν Her F2II, HD 110628 F 2III, 41 Cyg F5II and γ Cyg F8Ib. The method of growth curves was employed. Spectrograms taken with the 40'' telescope of the Simeiz Observatory with a dispersion of 36 A/mm for Hγ were used. The comparison of the chemical composition of N Her 1934 with the average "standard" chemical composition reveals large anomalies in the content of C, N, O in the atmosphere of the Nova. The content of these elements in the N Her atmosphere is about 10^3 as great as in the "standard" composition. This result can not be explained by peculiarities in the conditions of atom excitation. The region of the

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84574

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A001/A001

On Chemical Composition of the Atmosphere of N Her 1934

first ionization of metals is located in that spectrum region which corresponds to the energies of excitation of C, N and O atoms, but no peculiarities are discovered in ionization of metals. The concentration of hydrogen turned out to be anomalously low. If it is assumed that the temperature of hydrogen excitation for the transition 1 $\rightarrow$2 is above 8,000°C, due to additional emission in the Lα-line, the concentration of hydrogen will be even lower. It is noted that determinations of the star spectral class from the ratio of line intensities of hydrogen and metals may be erroneous, as a consequence of the anomalous hydrogen concentration. In addition to chemical composition, were determined also turbulence velocity, temperatures of excitation and ionization, and electron density for all the stars. For N Her 1934 the following values were obtained: V_{turb} = 4.36 km/sec, T_{exc} = 8,000°C, T_{ion} = 8,200°C and lg n_e = 14.10. There are 10 references.

A.A. Boyarchuk

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

22088

S/035/61/000/003/015/048
A001/A101

3,1560

AUTHORS: Boyarchuk, M.Ye. and Boyarchuk, A.A.

TITLE: Intensities of oscillators determined by studying the spectra of stars

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 3, 1961, 31-32, abstract 3A297 ("Izv. Krymsk. astrofiz. observ.", 1960, v. 22, 234-256, Engl. summary)

TEXT: The authors determined and systematized relative values of oscillator intensities (f) for 1,184 lines of twenty one kinds of neutral atoms and ions. The f values are calculated from the quantity

$$\eta = \frac{\sigma}{k_\lambda} = \frac{\pi^{1/2} e^2 f \lambda N_i}{mcv_t k_\lambda},$$

where σ and k are absorption coefficients in the line and continuous spectrum respectively, v_t is turbulent velocity (determined from the curve of growth), and N_i is the number of atoms in the i-level. The values of lg η were given by a number of authors earlier. The results of f-calculations are tabulated. A comparison of the obtained f-values with laboratory values shows that the accuracy of f-values

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Intensities of oscillators ...

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A001/A101

estimated by the authors is a little below that of the laboratory ones. The main source of errors was blending of the lines. The authors determined multiplying factors for converting relative oscillator intensities into absolute ones. There are 18 references.

A. Kolesov

[Abstracter's note: Complete translation]

Card 2/2

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

22374

3,1560

S/035/61/000/005/006/042
A001/A101

AUTHOR: Boyarchuk, M.Ye.

TITLE: Studying atmospheres of F-type stars. I. Comparison of chemical composition of atmospheres of stars with high and low velocities

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 5, 1961, 30, abstract 5A218 ("Izv. Krymsk. astro fiz. observ.", 1960, v. 24, 115 - 147, Engl. summary)

TEXT: The chemical composition of ten stars belonging to the plane and spherical components of the Galaxy was determined by the curves of growth method. Spectrograms were taken by the author on the 1,220-mm reflector of the Crimean Astrophysical Observatory with dispersion 23.4 A/mm at $H\gamma$. The curves of growth observed were compared with the theoretical ones calculated for the Milne-Eddington model by M. Wrubel. No considerable differences were found between the mean values of turbulent velocity for the groups of stars with low and high spatial velocities. The relative content of metals in both stellar groups is almost the same and similar to the solar one. It was found that the relative abundance of Ba and Sr was somewhat lower (by approximately 1.3 times) for the stellar group with

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22374

Studying atmospheres of F-type stars ...

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A001/A101

high velocities. The ratios C/metals and H/metals are higher in stars with high velocities than in stars with low velocities (by 8 and 2 times respectively). The enhanced carbon content in the stellar atmosphere is the most characteristic feature, in the author's opinion, of the F-classstars of the Galaxy spherical component, distinguishing them from the stars of the plane component of the same class. The star HD 218804 has a high spatial velocity but, judging from its chemical composition, it belongs to the plane component of the Galaxy. There are 30 references.

M. Svechnikov

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

S/035/62/000/012/008/064
A001/A101

AUTHOR: Boyarchuk, M. Ye.

TITLE: A study of atmospheres of F-type stars. II. Spectrophotometric study of atmospheres of δ Sct-type stars

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 12, 1962, 23 - 24, abstract 12A228 ("Izv. Krymsk. astrofiz. observ.", 1961, v. 26, 287 - 302, English summary)

TEXT: Two stars of δ Sct-type: δ Sct F3 III-IV and δ Del A7 III, and three comparison stars, ν Her F2 III, β Del F5 IV and ι BooA7 V, were studied on the basis of spectrograms obtained with a 1,220-mm reflector of the Crimean Astrophysical Observatory, AS USSR, with dispersion 23.4 A/mm at H_γ. The spectrophotometric investigation of stellar atmospheres was conducted by the growth curve method. The curve for Milne-Eddington's homogeneous model was selected as a theoretical curve of growth. The metal content determined was freed of the effects of temperature and electronic pressure. The results of comparison were as follows: The hydrogen-to-metal content ratio in δ Sct-type stars was half as

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A study of atmospheres of F-type star. ... S/035/62/000/012/008/064
A001/A101

low as in standard stars; the carbon-to-metal ratio was 1.2 times lower; anomalies in the contents of certain elements (Sc, Al, Ni, Sr) with respect to iron contents are observed in δ Sct-type in comparison with normal stars.

From author's summary

[Abstracter's note: Complete translation]

Card 2/2

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

S/712/62/028/000/003/020
E032/E114

AUTHOR: Boyarchuk, M.Ye.

TITLE: A study of the atmospheres of F type stars. III. Relation between some characteristics of stellar atmospheres and luminosity

SOURCE: Akademiya nauk SSSR. Krymskaya astrofizicheskaya observatoriya. Izvestiya. v.28. 1962. 94-122

TEXT: This is a continuation of previous work reported in Izv. Krymskoy astrofiz. obs., v.24, 1960, 115, and v.26, 1960, 287. A single prism spectrograph (23.4 Å/mm at H_γ) was used with the 122 cm reflector of the Krymskaya observatoriya (Crimean Observatory) to record the spectra of the following stars: α Cyg, (HD 194 093), 41 Cyg (HD 195 295), 35 Cyg (HD 193 370), α Per (HD 20 902), ν Per (HD 23 230), o Leo (HD 83 808, 14 214, 78 154), i Psc (HD 222 368, 5 015), 19 Dra (HD 153 597), 36 UMa (HD 90 839). The equivalent widths were found for 182 lines of metals and the CH molecular bands λλ 4324, 4312, 4311 Å in the range λλ 3800 - 500 Å. The error in W_λ is estimated at 3 - 9%. The values of W_λ were used to estimate the physical

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conditions and the chemical compositions of the above stars by the curve of growth method. The turbulent velocities v_t deduced from the curves of growth were found to increase with the luminosity. The values of v_t determined for neutral elements and for ions were found to be different. Moreover, v_t increased with height in the atmospheres of supergiants but remained practically constant in the case of dwarfs. In the former case, a change of τ from 0.45 to 0.1 corresponded to a change in v_t from 6 to 10 km/s. Excitation temperatures in supergiants increased very rapidly in the inward direction; in dwarfs they also increased but much more slowly. This difference may be partly due to the method used to determine the temperatures. The mean electron densities for supergiants were lower than for dwarfs. The mean chemical composition is indicated in Fig.25. The intensity of the CH bands was relatively strong for dwarfs but practically zero for supergiants.
There are 26 figures and 4 tables.

December 20, 1961

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A study of the atmospheres of ...

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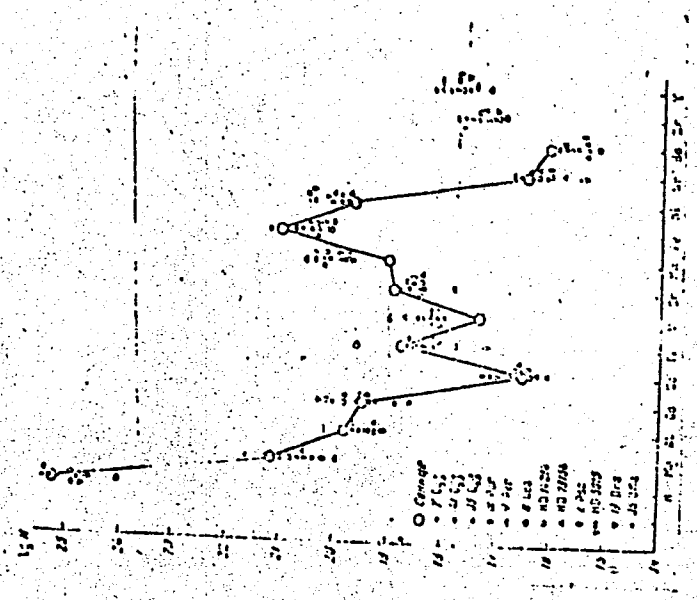
E032/E114

Fig.25



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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, M.Ye.

Atmospheres of class F stars. Part 4. Hydrogen lines. Izv. Krym. astrofiz. obser. 29:239-250 '63. (MIRA 16:10)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, M.Ye.

Differential line shifts in F5 giant spectra. Izv. Krym. astrofiz. obser. 31:12-22 '64. (MIRA 17:9)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

L 16847-66 EWT(1) GW

ACC NR: AP6005555 SOURCE CODE: UR/0030/66/000/001/0144/0146

AUTHOR: Boyarchuk, M. Ye. (Candidate of physico-mathematical sciences) 69 51 B

ORG: none

TITLE: New techniques in astrophysical observations 18

SOURCE: AN SSSR. Vestnik, no. 1, 1966, 144-146

TOPIC TAGS: astrophysics, astronomic conference, photomultiplier, image converter, nebula, astronomic observatory, spectrum, star, telescope, stellar radiation

ABSTRACT: A symposium on new methods in astrophysical investigations was held during the plenum session of the Commission on Stellar and Nebular Physics of the Astronomical Council of the Academy of Sciences USSR in Baku from 28 September to 2 October 1965. In his introductory report, V. B. Nikonov noted the increased need for large telescopes, automated observations, and computerized results. N. N. Mikhel'son observed that the Soviet astrophysical observational base was concentrated in a longitudinal band only 1^h40^m long in the

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European USSR and the Caucasus. He advised that the network be further expanded in Siberia and Central Asia.

Turning to specific problems, A. A. Boyarchuk proposed that special attention in observing nonstationary phenomena should be given to increasing the time resolution and in conducting different kinds of observations (spectral, photometric, etc.) simultaneously. Contrasts, he noted, should be increased when observing faint objects. R. Ye. Gershberg reported on the use of image converters in the Crimean Observatory to record changes in the spectrum of faint stars during flares lasting several minutes. In the course of eight nights, changes in the spectra of seven flare stars were observed with a time resolution of ~5 seconds, using the 2.6-m telescope in conjunction with an image converter. E. A. Dibay and V. F. Yesipov reported on the use of image converters to observe the spectra of extragalactic nebulae. V. I. Pronik described observations in which a spectrograph with a 0.67 lens speed successfully obtained spectra with a dispersion of 450 Å/mm of the variable radiosource CTA-102 having a stellar magnitude of $17^{m}.3$. The prospects of increasing image

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brightness by means of television technology were discussed by V. V. Prokof'yev. N. A. Dimov described a multichannel electrophotometer, developed in the Crimean Observatory, consisting of a spectrograph in whose focal plane three photomultipliers record radiation changes in three spectral regions. It was possible to record brightness changes of stars up to the fourteenth magnitude with the 50-cm telescope.

L. S. Luud reported on an experiment conducted in the Tartu Observatory in which two telescopes operated from the same console were used to observe changes in star brightness simultaneously in two spectral regions. By observing simultaneously the brightness of the object star with that of a comparison star, it was possible to detect those very slight changes in brightness which are usually lost in other observational techniques due to inhomogeneities in the terrestrial atmosphere. P. V. Shchegloy described a combination of an image converter and Fabry Perot etalon with which it was possible to photograph elongated objects in the $\Delta\lambda \sim 0.4$ Å band. It was used to investigate internal motions of the diffuse nebula NGC 6618. V. G.

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L 16847-66
ACC NR: AP6005555

7

Kurt emphasized the advantages of astrophysical observations in the far ultraviolet. Observations made beyond the terrestrial atmosphere by means of satellites and rockets of scattered emission in the resonance lines of hydrogen L_α (912 Å) and helium (586 Å and 304 Å) would be most promising. The angular dimensions and brightness distribution of discrete x-radiation sources also deserve attention, Kurt maintains. V. I. Moroz emphasized the advantages of conducting infrared investigations from balloons at a height of several tens of kilometers. N. M. Shakhovskiy and O. S. Shulov have devised a new way of studying polarization in narrow spectral intervals, using a 2-channel electropolarimeter. T. A. Eminzade announced that a 2-m mirror telescope and a 90-cm Schmidt telescope would soon be in operation in the Shemakha Observatory. The plenum also examined several administrative questions, including the selection of V. V. Sobolev to head the Commission's bureau. [ATD PRESS: 4181-F]

SUB CODE: 03, 17 / SUBM DATE: none

Card 4/4 BK

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

ACCESSION NR: AP4009733 S/0021/63/000/012/1573/1577

AUTHOR: Boyarchuk, O. K.

TITLE: Construction and investigation of a homogeneous difference scheme for a boundary value problem

SOURCE: AN UkrRSR. Dopovidi, no. 12, 1963, 1573-1577

TOPIC TAGS: difference equation, homogeneous difference solution method, boundary value problem, numerical solution, integro-interpolation

ABSTRACT: The authors considers the problem of the numerical solution of the differential equation

$$\frac{d^2}{dx^2}\left[k(x)\frac{d^2U}{dx^2}\right]+q(x)\cdot U=f(x) \qquad (1)$$

with boundary value conditions $U(a)=0,\ U(b)=0,\ U'(a)=0,\ U'(b)=0$

by means of a homogeneous difference scheme of the conservative type, constructed by the integro-interpolation method. It is shown that the constructed difference scheme ensures accuracy to second order when solving the above problem.

Card 1/2

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

ACCESSION NR: AP4009733

Orig. art. has 16 numbered equations.

ASSOCIATION: Ky*yivs'ky*y Derzhavny*y Universy*tet (Kiev State University)

SUBMITTED: 30Dec62 DATE ACQ: 03Feb64 ENCL: 00

SUB CODE: MM NO REF SOV: 004 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, P.G.; PLANOVSKIY, A.N., doktor tekhn.nauk

Kinetics of mass transfer in wetted-wall rectification columns. Khim.prom. no.3:195-200 Mr '62. (MIRA 15:4)
(Distillation apparatus) (Mass transfer)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

AEROV, M.E.; BOYARCHUK, P.G.; SVISTUNOV, V.G.; BERLIN, L.F.; BORODULIN, A.A.

Hydraulic study of two-downcomer rectification plates. Khim. i tekh. topl. i masel 8 no.5:47-51 My '63. (MIRA 16:8)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, P.G., kand. tekhn. nauk; KOL'TSOV, K.S., kand. tekhn. nauk

Distributor for film tubular rectification columns. Khim. i neft. mashinostr. no.6:6-7 D (64 (MIRA 18:2)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BELENOV, Ye.A.; BOYARCHUK, P.G.; ZYKOV, D.D.

Method of calculating mass transfer coefficients. Khim. prom. 40 no.10:754-756 O '64. (MIRA 18:3)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, V.K.

V.G.Belinskii on the psychological structure of poetic talent.
Vop.psikhol. 7 no.3:3-14 My-Je '61. (MIRA 14:6)

1. Kafedra pedagogiki Universiteta, Rostov-na-Donu.
(Belinskii, Vissarion Grigor'evich, 1811-1848)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

5.3400

69141

AUTHORS: Golubev, V. B., Boyarchuk, Yu. M., Yevdokimov, V. B.

S/076/60/034/03/036/038
B005/B016

TITLE: Magnetochemistry of Active Centers. Stabilization of Free Radicals on a Surface and Electron Paramagnetic Resonance in Quinhydrone Salts

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol 34, Nr 3, pp 696-697 (USSR)

TEXT: In the adsorption of quinhydrone from its solutions onto crystalline barium hydroxide the latter turns blue. According to reference 1 the electron paramagnetic resonance spectrum of this system consists of a line which is some oersteds wide, and for which $g = 2.003 \pm 0.001$. Although the characteristic hyperfine structure of the resonance spectrum line of p-benzosemiquinone could not be detected, the authors of reference 1 assigned this line to the radical ion of semiquinone which is formed on the surface of $Ba(OH)_2 \cdot 8H_2O$ and stabilized by the surface. The authors of the present paper refer to the paper mentioned. They took the electron paramagnetic resonance spectra of the salt of quinhydrone (I) and of the system quinhydrone - $Ba(OH)_2 \cdot 8H_2O$ (II). The two spectra proved to be identical and consisted of one single peak with $g = 2.0040 \pm 0.0002$ and a half-width of 4.5 oersteds. The reflection spectra of the two systems in the visible region

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

Magnetochemistry of Active Centers. Stabilization of Free Radicals on a Surface and Electron Paramagnetic Resonance in Quinhydrone Salts

69141
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B005/B016

of the spectrum are also identical. The concentration of free radicals in the two systems was determined in two ways. At room temperature, it is about 2% of the total weight of the salt for system (I) and about 4% of the quantity of the adsorbed quinhydrone for system (II). The concentration of the free radicals rises monotonely with an increase in temperature from 77 up to 273°K (Fig). Side reactions occur in system (II) at high temperatures, which are due to liberation of crystallization water. An irreversible steep decrease of the free radical concentration sets in in system (I) at 326°K which is ascribed to recinification. The following results were obtained: (1) the semiquinone surface is stabilized by a chemical reaction similar to the homogeneous formation reaction of the quinhydrone salt; (2) under standard conditions the quinhydrone salt is the diamagnetic dimer of semiquinone. The authors determined the degree of dissociation for the free salt of quinhydrone, for its alcoholic solution, and for system (II), as well as the dissociation heats of the dimeric form. The authors further investigated the kinetics of semiquinone polymerization in alcoholic solution. This polymerization proved to be a second-order reaction with an activation energy of 14000 calories/mole. The authors expressed their

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69141

Magnetochemistry of Active Centers. Stabilization of Free Radicals on a Surface and Electron Paramagnetic Resonance in Quinhydrone Salts

S/076/60/034/03/036/038
B005/B016

gratitude to Professor N. I. Kobozev for his interest in the present work. There are 1 figure and 3 references.

SUBMITTED: November 22, 1959

Card 3/3

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

32318
S/020/61/141/005/012/018
B101/B144

11.1510

AUTHORS: Boyarchuk, Yu. M., and Buben, N. Ya.

TITLE: Stabilization of free radicals in matrices of ionic crystals

PERIODICAL: Akademiya nauk SSSR. Doklady, v.141, no. 5, 1961, 1120 - 1123

TEXT: The authors discuss the problem of stabilization of free radicals in matrices in the presence of comparable quantities of the initial organic molecule and the matrix material. $MgCl_2 \cdot 6ROH$ and $CaCl_2 \cdot 4ROH$ (R = CH_3, C_2H_5, n-C_3H_7) are examined. These compounds were synthesized according to A. S. Osokin, ZhOKh, 8, 583 (1938). The samples were irradiated with 1.6-Mev electrons at -170°C (dose about 40 Mrad). The epr spectrum of the free radicals was recorded. Concentration of the paramagnetic centers was about 10^{20} per g. The epr spectra agreed with those of pure alcohols. The lines otherwise occurring on irradiation of ionic crystals due to formation of electron-capture centers were, however, absent. This is explained by a loosening of the crystal lattice due to the formation of a compound with alcohol. Stability of the free radicals was examined by treating the sample

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Stabilization of free radicals in ...

with a flow of dry N_2 of a given temperature. After the sample had reached the temperature of N_2 (after about 15 min), the epr spectrum was recorded. Then, the test was repeated at a higher N_2 temperature. Fig.2 shows that the concentration of free radicals in $MgCl_2 \cdot 6CH_3OH$ starts decreasing at a much higher temperature than in irradiated CH_3OH. At higher temperatures, the rapid decrease of concentration of free radicals might be also due to decomposition of $MgCl_2 \cdot 6CH_3OH$. After all, recombination is considerably retarded by the ionic matrix. At rising temperature, a change of the superfine structure of the epr spectrum was observed. For $C^{\cdot}H_2OH$, the ratio H_1/H_2 between the amplitude of the central component and the amplitude of the marginal components was 1 : 1.7 : 1. H_1/H_2 increased with rising temperature. According to Ref.9 (see below), this is explained by defrosting of rotation of $C^{\cdot}H_2$ groups due to temperature rise. In n-propyl (and n-amyl) alcohol irradiated in matrices it was found that the quintuplet

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Stabilization of free radicals in ...

1:2:2:2:1 occurring at -150°C changed into the quadruplet 1:3:3:1 at -90°C. This is explained by defrosting of the CH_2 groups in the $RCH_2C^{\cdot}HOH$ radical, with both β-hydrogen atoms becoming equivalent. Thus, a spectrum results that is characteristic of the interaction of the unpaired electron with three equivalent H atoms. The matrix method described will be further studied. It is to be applied to other types of organic radicals, thus determining the limit concentration of free radicals. I. N. Blazhevich is thanked for cooperation and Yu. N. Molin for discussion. There are 3 figures and 12 references: 4 Soviet and 8 non-Soviet. The four most recent references to English-language publications read as follows: Ref. 1: The Formation and Trapping of Free Radicals, Ed. by A. M. Bass and H. P. Broida, N. Y., 1960; Ref. 3: Stabilization of Free Radicals at Low Temperatures, Ed. by A. M. Bass and H. P. Broida, NBS Monograph, 12, 1960, p. 95; Ref. 11: R. S. Alger, T. H. Anderson, L. A. Webb, Bull. Am. Phys. Soc., 5, 156 (1960); Ref. 9: E. L. Cochran, F. J. Adrian, V. A. Bowers, J. Chem. Phys., 34, 1161 (1961).

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

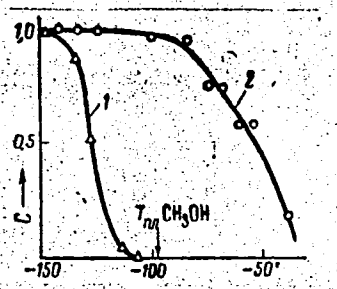
Stabilization of free radicals in ...

PRESENTED: July 13, 1961, by V. N. Kondrat'yev, Academician

SUBMITTED: June 27, 1961

Fig. 2. Change of concentration C of the radical $C^{\cdot}H_2OH$ (in relative units) with rising temperature. (1) in frozen CH_3OH; (2) in $MgCl_2 \cdot 6CH_3OH$; $T_{пл}$ = melting point.

Fig. 2



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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

L 19612-65 EWG(j)/EWT(m)/EPF(c)/EPF(n)-2/EWP(j)/EWA(h)/EWA(l) Pc-4/Pr-4/
Pu-4/Peb GG/RM/MLK

ACCESSION NR: AT4049862 S/0000/64/000/000/0233/0236

AUTHOR: Dogadkin, B.A., Shershnev, V.A., Boyarchuk, Yu. M., Dudenkova, S.V.

TITLE: The problem of the role of metal oxides in the vulcanization of rubber in the presence of tetramethylthiuramdisulfide

SOURCE: Khimicheskiye svoystva i modifikatsiya polimerov (Chemical properties and the modification of polymers); sbornik statey. Moscow, Izd-vo Nauka, 1964, 233-236

TOPIC TAGS: metal oxide, rubber vulcanization, tetramethylthiuramdisulfide, free radical reaction, radiation yield, transverse bond

ABSTRACT: An attempt was made to track the course of free-radical reactions during irradiation of natural rubber and to clarify the role in these processes of additions of tetramethylthiuramdisulfide (TMTD) and metal oxides. The addition of TMTD increased the radiation yield of radicals per 100 ev from 0.6 to 1.3, which may be explained by the transfer of energy during irradiation; the number of transverse bonds per 100 ev increased from 0.9 to 1.1. Oxides of Zn and Bi decreased the yield to 0.4, but raised the number of transverse bonds to 3.2 and 3.7, in the presence of TMTD, the numbers were 3.2 and 3.7, respectively. In the presence of TMTD, MgO and NiO have practically no

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ACCESSION NR: AT4049862

3

effect on the radiation yield, while MgO, in addition, does not affect formation of transverse bonds. The largest number of transverse bonds forms in the systems rubber + TMTD+ZnO and rubber + TMTD + Bi_2O_3 and the smallest - in the systems with additions of NiO and CdO (in comparison with the system rubber + TMTD). The different effect of metal oxides on the radiation cross-linking of rubber, with and without TMTD, can be related to their effect on the reactions of free radicals which determine the cross-linking of the rubber molecules. "The authors are grateful to N. Ya. Buben for the opportunity to conduct the work."

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosava, (Moscow Institute of Fine Chemical Technology) Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AN SSSR)

SUBMITTED: 16Feb63 ENCL: 00 SUB CODE: MT

NO REF SOV: 007 OTHER: 002

Card 2/2

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

L 54739-65 EWG(j)/EWT(m)/EPF(c)/EPF(n)-2/EPR/EWP(j)/EWP(t)/EWP(b) Pc-4/Pr-4
Ps-4/Pu-4 IJP(c) JD/WW/RM

ACCESSION NR: AP5017886 UR/0195/64/005/005/0823/0830

AUTHOR: Boyarchuk, Yu. M.; Buben, N. Ya.; Dubovitskiy, A. V.; Manelis, G. B.

TITLE: Investigation of irradiated ammonium perchlorate by the electron paramagnetic resonance method

SOURCE: Kinetikia i kataliz, v. 5, no. 5, 1964, 823-830

TOPIC TAGS: ionizing irradiation, ammonium salt, perchlorate, electron paramagnetic resonance, radiation chemistry, chemical kinetics

ABSTRACT: The nature, accumulation, and recombination of paramagnetic centers arising under the action of ionizing radiation in pure ammonium perchlorate and in NH_4ClO_4 with additions of CaO, MnO_2 (as mixtures in amounts of 2% by weight), and $KMnO_4$ (cocrystallized with NH_4ClO_4) were studied in the temperature range 150-400°K by the electron paramagnetic resonance method. A correlation was found between the behavior of radicals in irradiated NH_4ClO_4 and thermal decomposition of ammonium perchlorate: NH_4

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L 54739-65
ACCESSION NR: AP5017886

was found to be a good model (observed by the electron paramagnetic resonance method) for investigating typical properties and behavior of active particles formed in thermal reactions. Orig. art. has: 3 figures, 3 formulas [illegible] graphs.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AN SSSR)

SUBMITTED: 060ct62 ENCL: 00 SUB CODE: IC, GC

NR REF SOV: 005 OTHER: 004 JPRS

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Card 2/2

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, Yu.M.; NIKITIN, V.N.

Variation in the intensities of the infrared absorption bands of C = O and N = H groups in N-monosubstituted amides during the formation of the hydrogen bond. Dokl. AN SSSR 159 no.2:397-400 N '64. (MIRA 17:12)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR. Predstavleno akademikom A.N. Terenin'm.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARCHUK, Yu.I.; RAPPOPORT, I.Ye.; NIKITIN, V.N.; ARUKHINA, E.P.

Study of hydrogen bonding in urethane elastomers by infrared spectroscopy. Vysokom. soed. 7 no.5:778-785 My '65.
(MIRA 18:9)

1. Institut vysokomolyarnykh soyedineniy AN SSSR i Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka imeni S.V.Lebedeva.

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L 22286-66 EWP(j)/EWT(m) IJP(c) RM/WW
ACCESSION NR: AP6006491 SOURCE CODE: UR/0138/65/000/010/0008/0011

AUTHOR: Apukhtina, N. P.; Boyarchuk, Yu. M.; Rappoport, L. Ya.; Mazur, L. Yu.; Mozzhukhina, L. V. 43

ORG: All-Union Scientific-Research Institute of Synthetic Rubber im. S. V. Lebedev (Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka) 15

TITLE: Study of the process of cross-linking of urethan polymers under the influence of atmospheric moisture

SOURCE: Kauchuk i rezina, no. 10, 1965, 8-11

TOPIC TAGS: polymer, vulcanization, reaction rate, chemical reaction, elastomer, moisture measurement

ABSTRACT: The authors made an attempt to study in more detail the process of cross-linking of urethan elastomers during storage in contact with atmospheric moisture. The results obtained show that polymer moisture absorption proceeds nonuniformly, but in relation to the variations in the moisture content of the medium. The nature of the cross-linking process of the polymer is independent of both the moisture content of the medium and of the polymer. The temperature-dependence of the reaction rate of the NCO-group with atmospheric moisture is established and an approximate value of the activation energy of the reaction is calculated. It is found that the interaction of the isocyanate groups of the

Card 1/2 UDC: 678.664:678.028:28:678.019.32

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L 22286-66

ACCESSION NR: AP6006491

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polymer with atmospheric moisture proceeds considerably faster than the process of cross-linking. Orig. art. has: 7 figures, 1 table, and 7 formulas.

SUB CODE: 07 / SUBM DATE: none / ORIG REF: 006 / OTH REF: 004

Card 2/2 nst

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYAREVICH, V.(Riga)

Account of a chain with uncontrolled nonlinear inductance on an electron model. Vestis Latv ak no.11:85-90 '60.
(EEAI 10:9)

1. Akademiya nauk Latviyskoy SSR, Institut energetiki i elektrotekhniki.

(Inductance) (Electrons)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYAREVICH, V. YA.

104-3-13/45

AUTHOR: Barkan, Ya.D., Boyarevich, V.Ya and Glazov, A.P., Engineers.

TITLE: Non-synchronous connection of power stations. (Nesinkhronnoye vklyucheniye elektrostantsiy)

PERIODICAL: "Elektricheskiye Stantsii" (Power Stations), 1957, Vol.28, No.3, pp. 44 - 46 (U.S.S.R.)

ABSTRACT: The use of automatic reclosure without checking synchronism on single circuit lines fed from both ends can greatly increase the reliability of power stations. Calculations of the currents that occur when generators are connected whilst the voltages are out of phase by large angles serve as criteria of the applicability of automatic reclosure without synchronisation. Limitations on automatic reclosure often result from particular conditions of the power station and calculations showed that it could be applied without limitation to only one power station in five on a system. However, tests have shown that if the balance of reactive and power loads is maintained in the separate parts of the power system the currents on reclosing are 14 - 18% less than the calculated values. The region of applicability of automatic reclosure can often be extended by taking proper account of experimental data in this way. Often the frequency of heavily loaded systems does not fall as much as calculations might suggest

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Non-synchronous connection of power stations. (Cont.)

when the link is lost because the fall of frequency itself causes loss of load. The article describes a series of tests that were carried out on a power system to ascertain whether automatic reclosure without synchronisation could be applied. The results of the tests are tabulated. Synchronism was re-established in 1 - 3 seconds and the number of cycles of asynchronous running was not greater than eight. The change of frequency is illustrated in graphs - the frequency was restored from 44 c/s to normal in less than 2 secs. About 40 asynchronous switchings were made and prolonged asynchronous conditions, longer than 20 secs. were observed in only two cases; these unusual cases were thought to be due to the condition of the turbine governors. The experiments were repeated at other power stations with good results and it was shown that asynchronous switching can be applied to all lines of the power system connecting thermal power stations for all practically possible conditions. It has accordingly been introduced on all lines except those leading to hydro-electric power stations.

Card 2/3 It is concluded that in analysing the possibility of applying automatic reclosure local conditions must be taken into account. The magnitudes of loads and their distribution in the system largely govern the nature of the processes that occur on

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Non-synchronous connection of power stations. (Cont.)

reclosure and the rapidity with which synchronism is re-established. At large overload, effect associated with voltage drop have a marked effect on the reduction of frequency. The region of application of automatic reclosure may be extended by making experimental determinations of current values of automatic reclosure.

There are 3 figures.

AVAILABLE: Library of Congress

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APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

S/271/63/000/001/002/047
D413/D308

AUTHOR: Boyarevich, V.Ya.

TITLE: The simulation of a magnetic amplifier on an electronic analog computer

PERIODICAL: Referativnyy zhurnal, Avtomatika, telemekhanika i vychislitel'naya tekhnika, no. 1, 1963, 11, abstract 1A47 (Dokl. 4-y Mezhvuz. konferentsii po primeneniyu fiz. i matem. modelirovaniya v razlichn. otraslyakh tekhn. Sb. 3, M., 1962, 253-260)

TEXT: The author describes the results of setting up a simulation of a single-ended magnetic amplifier on an electronic analog computer; these allow the following conclusions: (1) Electronic analog simulation is recommended for use in computing the electrical and design parameters of magnetic amplifiers. (2) The possibility arises of simultaneously observing transient effects in both of two interlinked networks when any change of parameters is made in one of them. (3) Results for computed current, induc-

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

The simulation of a magnetic ...

tion and field intensity may be obtained for any initial angle α of the AC voltage and for the rise of DC voltage in the control circuit following various laws. 3 figures. 8 references.
[Abstracter's note: Complete translation]

Card 2/2

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206620016-8

BOYARIN, B.

Introduction of industrial management without shop divisions.
Biul.nauch.inform.: trud i zar.plata no.11:20-26 '59.
(MIRA 13:5)
(Moscow Province--Industrial organization)

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ARTEMOV, D.M.; BUDENKO, P.A.; BOYARIN, B.Ya.; KURTSEV, V.V.; VOLODINA, M.A.; KRIVOVAYA, V.I.; KOROLEV, I.V.; BUDNIKOVA, Z.M.; METAL'NIKOVA, A.L.; AFANAS'YEV, S.P., red.; GUDKOVA, N., red.; YAKOVLEVA, Ye., tekhn. red.

[Economy of Moscow Province; a statistical manual] Narodnoe khoziaistvo Moskovskoi oblasti; statisticheskii sbornik. [Moskva] Mosk. rabochii, 1958. 270 p. (MIRA 11:9)

1. Moscow (Province). Oblastnoye statisticheskoye upravleniye.
2. Nachal'nik Moskovskogo oblastnogo statisticheskogo upravleniya (for Afanas'yev).
(Moscow Province--Economic conditions--Statistics)

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NADEZHIN, A.A.; IVANOVA, L.P.; GAVRILINA, L.S.; SUKHOVA, Ye.I., otv. red.; BOYARIN, B.Ya., red.; MANASOV, B.Ya., red.; SLEMZIN, A.A., red.

[The economy of Moscow Province; statistical abstract] Narodnoe khoziaistvo Moskovskoi oblasti; statisticheskii sbornik. Moskva, Izd-vo "Statistika," 1964. 151 p. (MIRA 17:5)

1. Moscow. (Province) Statisticheskoye upravleniye. 2. Nachal'nik Statisticheskogo upravleniya Moskovskoy oblasti (for Sukhova).

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BOYARIN, YA. M. PA 6/49T41

USSR/Engineering Jun '48

Dryers, Air
Heating, Industrial

"The Working of the Calorifier in the Kudinovsk Plant," Ya. M. Boyarin, N. S. Dmitrenko, Engineers, 2½ pp

"Ogneupory" Vol XIII, No 6

Describes construction of calorifier with sketches. Hot furnace gases pass through tubes, around which air is circulated. Heated air is used for drying bricks, thus saving fuel.

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